

**Dual Low-Voltage Power Amplifier****CL2822****■ Description**

The CL2822 is a monolithic integrated circuit in 8 lead Minidip package. It is intended for use as dual audio power amplifier in portable cassette players and radios.

The CL2822 is available in the industry standard DIP-8.

**■ Features**

- Supply Voltage Down to 1.8V
- Low Cross Over Distortion
- Low Quiescent Current
- Bridge or Stereo Configuration

**■ Applications**

- Portable radio cassette
- Portable speaker

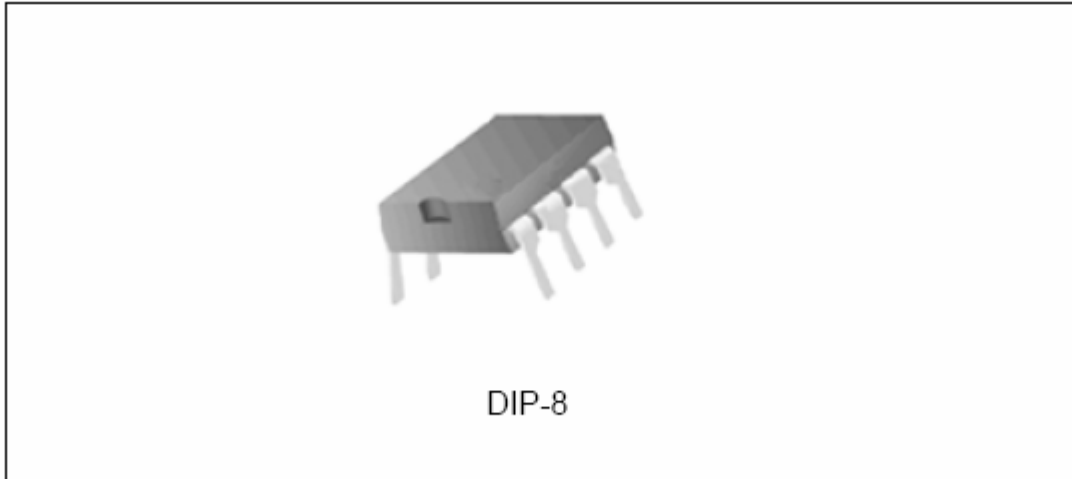


Figure 1. Package Types of CL2822

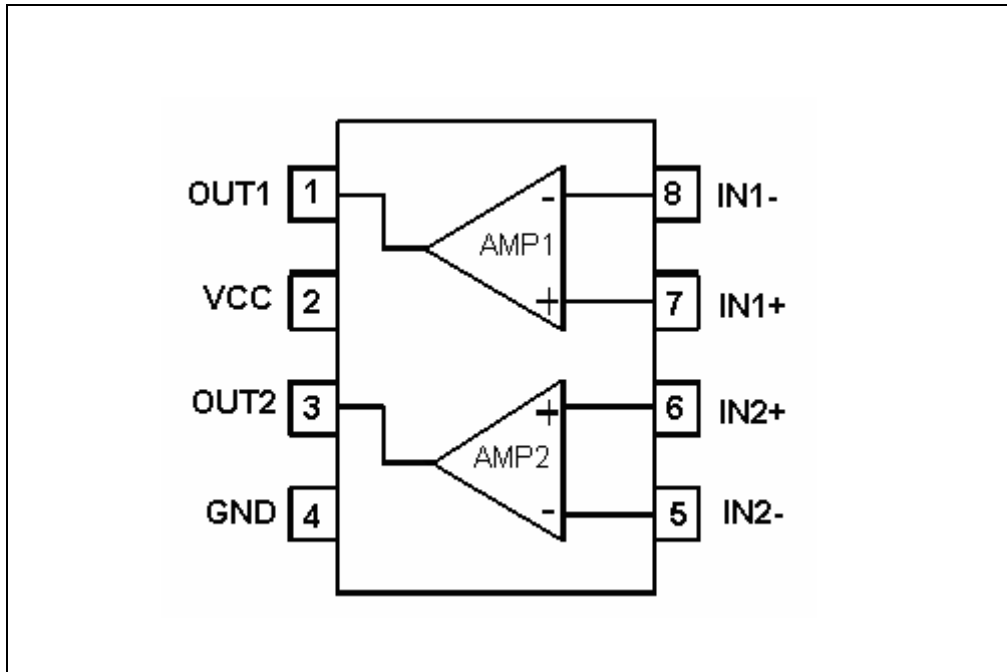
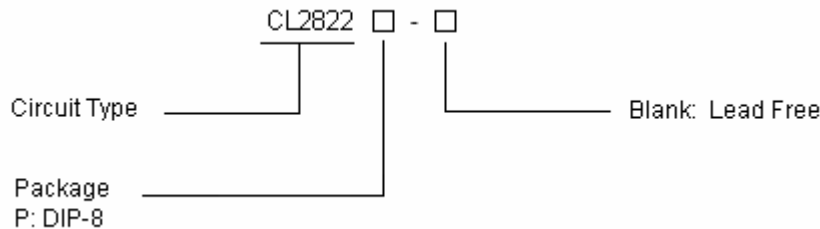
**Dual Low-Voltage Power Amplifier**
**CL2822**
**■ Function Block**


Figure 2. Functional Block Diagram of CL2822

**■ Pin Descriptions**

Pin No.	Symbol	Function
1	OUT1	Output (1 CH)
2	VCC	Supply Voltage
3	OUT2	Output (2 CH)
4	GND	Ground
5	IN2-	Inverting Input Signal (2 CH)
6	IN2+	Non- Inverting Input Signal (2 CH)
7	IN1+	Non- Inverting Input Signal (1 CH)
8	IN1-	Inverting Input Signal (1 CH)

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**Ordering Information**


Package	Temperature Range	Part number (Lead Free)	Marking ID	Packing Type
DIP-8	0 to 70°C	CL2822P-E1	CL2822P	Tube

**Absolute Maximum Ratings (Note1)**

Ta= 25°C, unless otherwise specified.

Symbol	Parameter	Range	Unit
VCC	Power supply voltage	12.0 (Note2)	V
Io	Peak Output Current	800	mA
PD	Total Power Dissipation (Ta=50°C)	1.0	W
Ta	Operation temperature	0 to 70	°C
Tstg	Storage temperature	-40 to 150	°C
θJA	Thermal Resistance	100	°C/W

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Note2. Without Load

**Recommended Operating Conditions (Ta= 25°C)**

Parameter	Symbol	Condition	Min.	Max.	Unit
Supply voltage	VCC	Stereo, RL=4 Ω	1.8	6	V
		Stereo, RL=8 Ω	1.8	9	
		BTL , RL=8 Ω	1.8	6	
Operating temperature	Ta	--	0	70	°C

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**■ Electrical Characteristics**

VCC = 6 V, f = 1 KHz, Ta = 25°C, unless otherwise noted.

**1. Stereo** (test circuit of Figure 3)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
VCC	Supply Voltage	RL=4 Ω	1.8		6	V
		RL=8 Ω			9	
Icc	Quiescent Drain Current			7	11	mA
Vo	Quiescent Output Voltage		2.45	2.65	2.85	V
I <sub>B</sub>	Input Bias Current			100	500	nA
Po	Output Power (Each channel, THD=10%)	Vcc=6V, RI=4 Ω	450	580		mW
		Vcc=6V, RI=8 Ω	300	380		
		Vcc=3V, RI=4 Ω		110		
THD	Total Harmonic Distortion	Po=0.15W, RI=8 Ω		0.2		%
Gv	Closed Loop Voltage Gain		38	40	42	dB
ΔGv	Channel Balance			0.2	± 1	dB
Ri	Input Resistance		100			KΩ
eN	Total Input Noise	B = 22Hz to 22kHz		3.0		μ V
SVR	Supply Voltage Rejection	f = 100Hz, C1 = C2 = 100μF	25	30		dB
Cs	Channel Separation			50		dB

**2. Bridge** (test circuit of Figure 4)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Vcc	Supply Voltage	RI=8Ω	1.8		6	V
Icc	Quiescent Drain Current			7	11	mA
Vos	Output Offset Voltage	RI=8Ω			± 50	mV
I <sub>b</sub>	Input Bias Current			100	500	nA
Po	Output Power	D=10%, RI=8 Ω	900	1100		mW
THD	Total Harmonic Distortion	Po=0.5W, RI=8 Ω		0.3		%
Gv	Closed Loop Voltage Gain		38	40	42	dB
Ri	Input Resistance		100			KΩ
eN	Total Input Noise	B = 22Hz to 22kHz		3		μ V
SVR	Supply Voltage Rejection	f = 100Hz, C1 = C2 = 100μF	30	40		dB
B	Power Bandwidth (-3dB)			100		KHz

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■ Test circuit

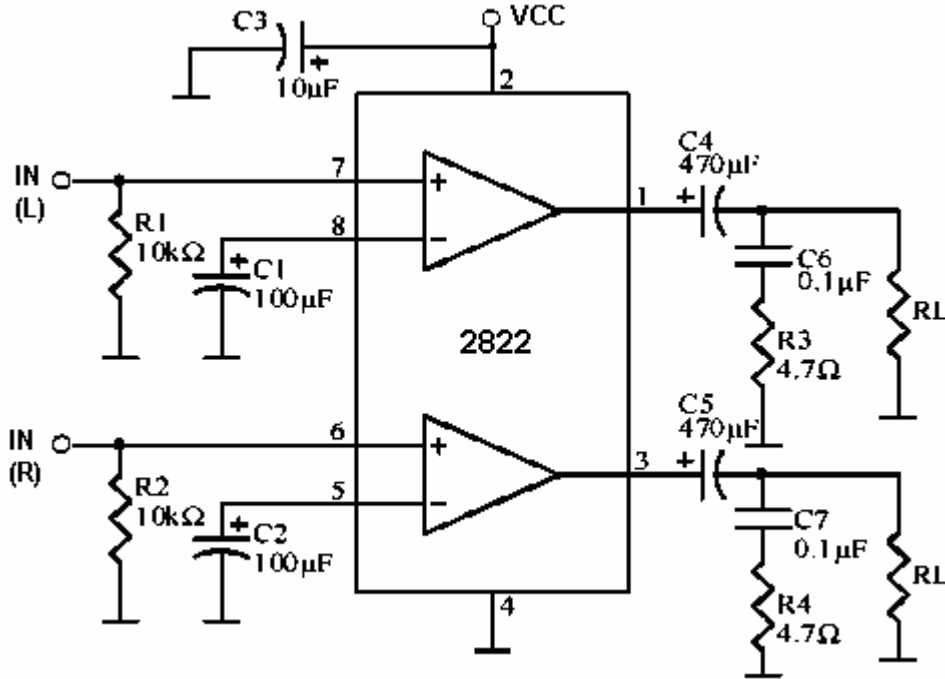


Figure 3. Test Circuit of CL2822 (Stereo)

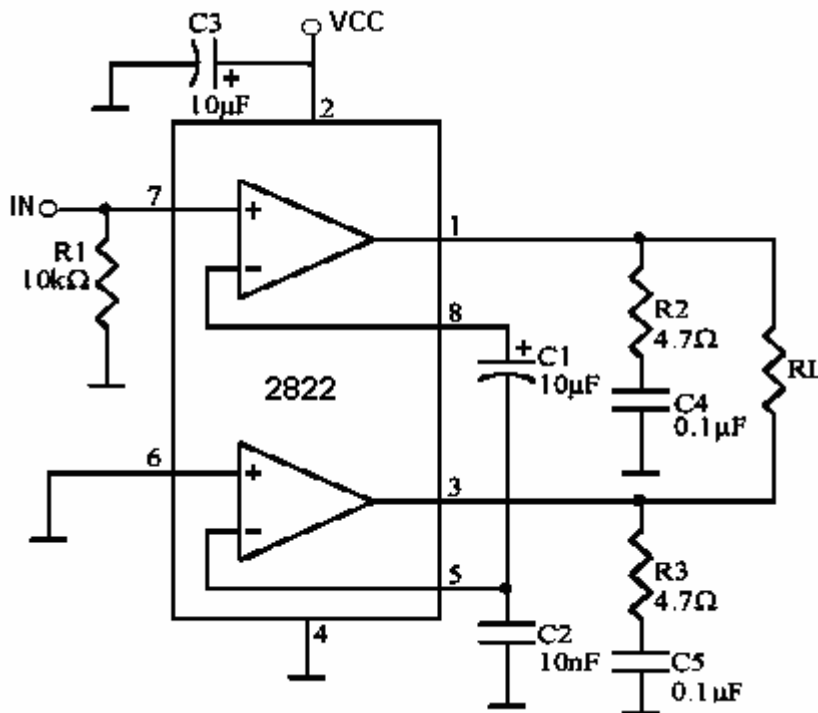


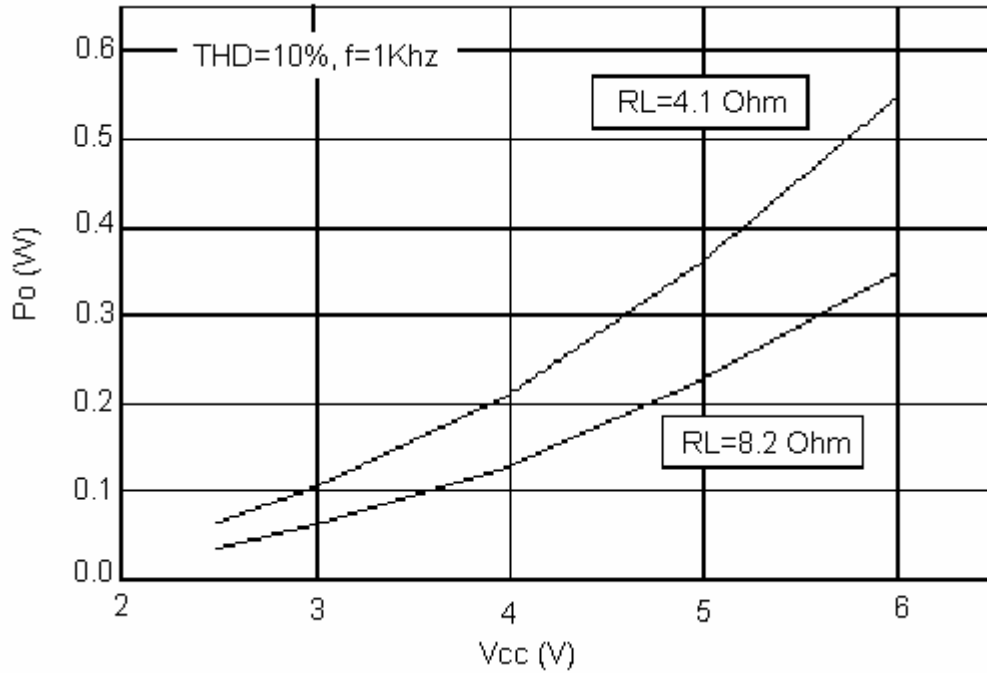
Figure 4. Test Circuit of CL2822 (Bridge)

Dual Low-Voltage Power Amplifier

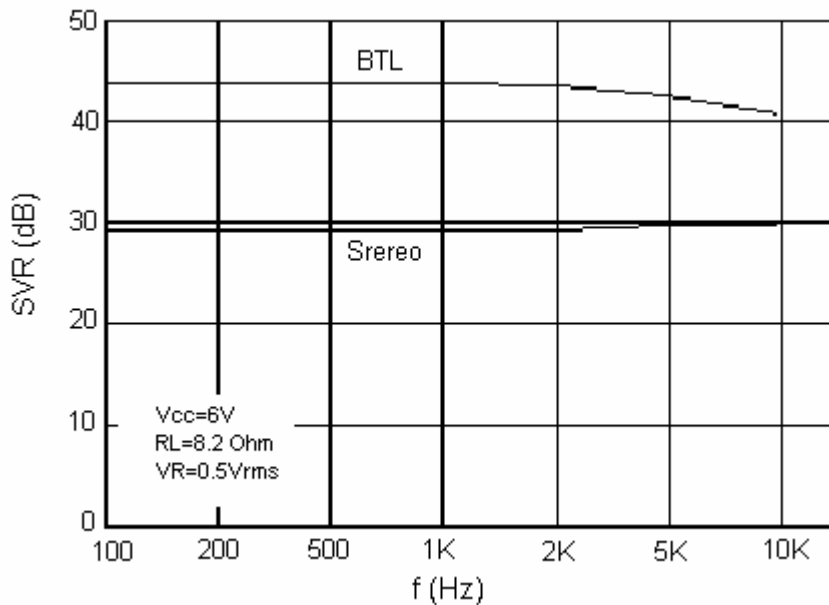
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■ Typical Performance Characteristics

1. Output Power vs. Supply Voltage (THD=10%, f=1kHz Stereo)



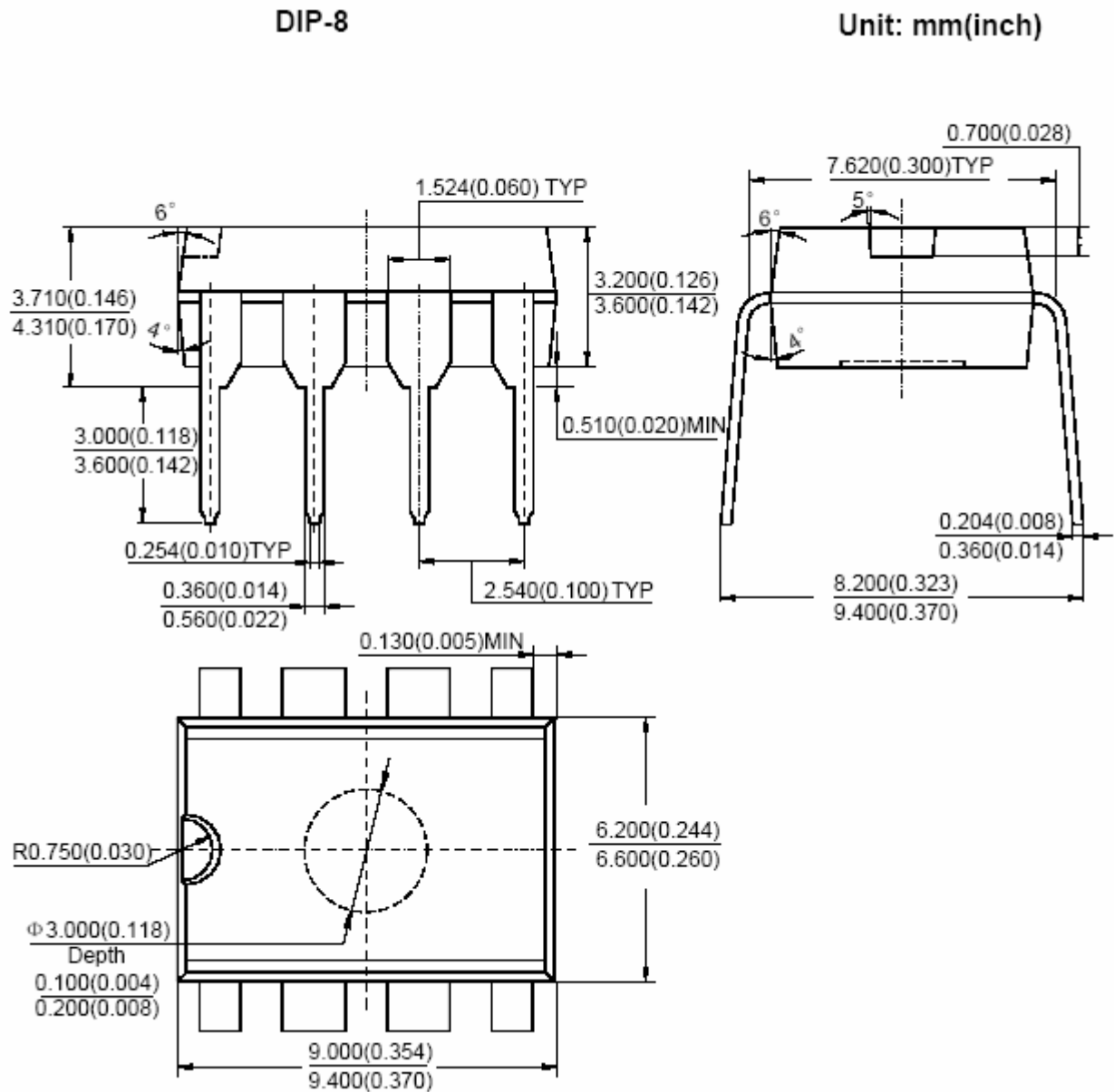
2. Supply Voltage Rejection vs. Frequency



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■ Mechanical Dimension



**Dual Low-Voltage Power Amplifier****CL2822****IMPORTANT NOTICE**

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